

What is claimed is:

1. An electrically powered heating mat comprising:
 - a heating element, said heating element comprising at least one electrically resistive foil element; and,
 - at least one protective layer, said layer comprising chopped strands and resins.
2. The heating mat of claim 1 in which said heating element comprises a plurality of resistive foil elements, each element constructed of a nichrome material and having a width of not greater than 0.125" and thickness not greater than 0.0005".
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3. The heating mat of claim 2 in which said nichrome material has an 80/20 ratio of nickel to chrome.
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4. The heating mat of claim 1, said mat having an essential planar structure having a top surface and a bottom surface and consisting of layers, said layers comprising:
 - an upper chopped strand fiberglass mat positioned above the heating element;
 - at least one lower chopped strand fiberglass mat, each mat positioned below the heating element;
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 - an aluminum earth screen positioned above the upper chopped strand fiberglass mat, said aluminum earth screen providing ground fault protection to the mat;
 - a surface tissue positioned above said aluminum earth screen;
 - a gell coat layer positioned above the surface tissue; and,
 - a flow coat resin layer positioned below the lower chopped strand fiberglass mat.
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5. The heating mat of claim 4 wherein said gell coat layer and said surface tissue are of different colors thereby providing an indicator when said gell coat layer has been damaged or significantly worn.
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6. The heating mat of claim 4 further comprising a thermal cut out switch.

7. The heating mat of claim 4 further comprising an adjustable thermostatic control device, said device mounted on a connection cord remote from said heating mat.
8. The heating mat of claim 4 further comprising at least one insulation layer positioned immediately above the flow coat resin layer.
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9. The heating mat of claim 8 wherein the thickness of said mat is approximately 1.25".
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10. The heating mat of claim 4 further comprising a rubber padding layer positioned below the flow coat resin layer.
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11. The heating mat of claim 9 wherein the thickness of said mat is approximately 0.5".
12. The heating mat of claim 4 further comprising a means for establishing an acute angle between the heating mat and a surface on which it rests.
13. A method for constructing an electrically powered heating mat, said mat comprising a plurality of foil elements, said method comprising the step of:
20 creating a heating blanket element by sewing said foil elements between two layers of fiberglass cloth.
14. The method of claim 13 wherein said sewing step creates pockets in which foil elements reside.
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15. The method of claim 13 wherein said foil elements are arranged electrically in a series/parallel configuration.

16. The method of claim 13 wherein a flexible mold is utilized, said method further comprising the steps of:

adding successive layers of the heating mat to the mold; and,
subjecting one or more of said layers to a rolling process to prevent air pockets

5 from forming.

17. The method of claim 16 wherein said layers comprise a heating element layer, said method further comprising the step of laminating a snap acting thermostat adjacent to said heating element layer.

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18. A method for providing heat to a location, said method comprising the step of using the electrically powered heating mat of claim 1.

15 19. The method of claim 18 wherein said location is at least part of an individual's work area.

20. The method of claim 18 wherein said location is at least part of a vehicle's internal area.

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